The Tribune Radio—News of the Air Routes

Conducted by JACK BINNS

Automatic S O S Can Be Sent From Ships

British Engineers Have Produced Three Types of Automatic Apparatus for Distress Calls

Convention May Approve

Apparatus Would Expedite Rescue Work and Save Many Lives Off Coasts

Radio engineers in Great Britain are concentrating upon the production of an automatic transmitter and receiver which will send out and receive distress signals from ships at sea in such manner that attention will be attracted even though the wireless operator should not happen to be in his cabin. The problem is a very important one to the owners of small steamships, who cannot afford to fully comply with every regulation of the International Radio Convention regarding wireless operators.

The war prevented a great many necessary changes in the international rules being made, as it was impossible for the technical representatives to get together in convention. As a matter of fact, there has not been an international radio convention since 1912. At that time it was arranged to have the next one in 1917, but the war prevented this, and since the armistice the nations have been so engrossed with more important problems that they have not had an opportunity to hold a convention. There is a movement on foot now to hold one this year.

In the meantime, however, active work has progressed in the development of an automatic distress signal, and three such systems have already been produced, two by the Marconi company and one by the Radio Communication Company.

Automatic Sets Produced

The first of the two produced by the Marconi company responds to a succession of dots, which are sent out for a definite period of time in a certain pre-arranged manner. This system necessitates the use of an automatic transmitting device upon the ships. The second one responds to a succession of dashes sent out in accordance with a prearranged plan, but unlike the former, does not require an automatic transmitting device upon the ships.

The device developed by the engineers of the Radio Communication Company responds to a succession of letter groups, such as the SOS group, and does not require automatic transmission from the ship which is in distress. This device is arranged to fit in with the present regulations of the International Radio Convention, SOS being the universal distress call on the high seas.

"The London Morning Post," in commenting upon the devices says: "Now, it is quite certain that no automatic device can be as efficient as an alert trained wireless operator, as such an operator can read a very weak distress signal through strong interference, but the point which is of special interest to the shipowner is this: 'When will an automatic apparatus for registering the signal of distress be approved by the Board of Trade and the Postmaster General?'"

The perfection of such a device, however, will be of great value in navigation because there isn't the slightest doubt that a large number of small vessels which do not now come under the laws compelling the installation of wireless, will be equipped with a successful automatic distress apparatus. The result will undoubtedly be that a large number of lives will be saved thereby, especially in the winter months around the coasts.

The present distress call, SOS, was adopted in 1912 by all the nations as being the combination most easily sent and the one which would quickly attract attention of wireless operators. For oral reception with telephone headsets it is a good call, but it does not lend itself so easily to automatic transmission or reception. Of course, at the time it was adopted there was no thought of an automatic transmitter or receiver.

Preliminary Conferences Last Year

There were some preliminary conferences last year upon radio problems, and it was generally agreed at that time that in the event of an international convention being held this year that proposals for the use of an automatic distress apparatus in the nature of an "alarm signal" would be taken up. At that time the tentative proposal was for an apparatus which would produce on shipboard a series of dashes, each lasting four seconds, with one second interval. The receiving apparatus ashore to be designed to respond to such signals.

In the event that a convention is held this year, and the automatic apparatus is adopted, such apparatus can be installed on every lighthouse or lightship in conjunction with the radio beacon signals which will be rapidly installed throughout the world.

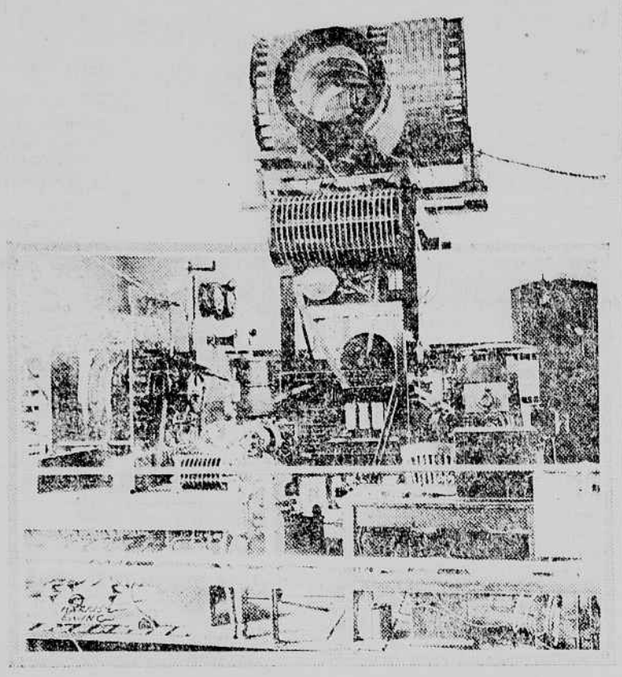
The installation of such instruments on a lighthouse or lightship would mean that the crew could immediately get a bearing upon the ship sending out the call, and by intercommunication with each other could determine its exact position by means of triangulation with their respective bearing lines. This position would be accurate, and it would greatly facilitate rescue work, as revenue cutters or other craft could be sent to the position immediately. The valuable thing about the system would be that none of the lighthouse or lightship crew need have a knowledge of the telegraphic code. They would, however, have to have a knowledge of the

N. G. to Give Radio Concert

The first of the National Guard units in New York City to stage a radio concert in conjunction with an exhibition drill and dance will be Battery B, 105th Field Artillery, at the armory, Clermont and Myrtle avenues, Brooklyn, on the evening of April 20. Captain James H. McSweeney, commanding the battery, has arranged for the installation of powerful amplifiers in the big drill hall and the broadcasting stations at Newark will be in communication.

Battery B has completed an interesting program of mounted events in addition to the radio features. There will be an indoor polo match between teams of the Unity Riding Club of Brooklyn and the officers of the 1st Battalion of the 105th Field Artillery. A mounted basketball game between teams from Batteries A and B of the Brooklyn artillery unit and a flying and firing platoon drill by Battery B, in command of Lieutenant J. H. Andrews. The band of the 105th F. A., under the direction of Lieutenant Elmer Ressigue, will play a concert, and there will be dancing [illegible]

Gigantic Oscillation Transformer at Arlington



The huge coils at the top of the picture are the primary and secondary inductances in the radio circuits of the great trans-Atlantic wireless station located at Arlington, Va., near Washington. This is the station which sends out the official time of the nation every day at noon and 10 o'clock in the evening. The time signals are taken by all the broadcasting stations throughout the country on the 2,500-meter wave, and then retransmitted on the 360-meter wave, so that radio enthusiasts can check their clocks each day

England Awakening to Charms Of the Radiophone at Last

Aviatrice Has "Extraordinary Permit" From British Authorities to Demonstrate Ethereal Music in Effort to Get More Liberal Rules

By Warre B. Wells

From The Tribune's European Bureau

LONDON, April 15.—The first radio concert ever given in this country will take place at the Aeolian Hall here Thursday. It has been arranged by Florence Parbury, versatile woman aviator, musician and artist, who recently flew to Holland in her own airplane to make experiments in wireless telephony for the transmission of music played at The Hague. She is the only woman member of the Wireless Society, and has been given an "extraordinary permit" by the Postmaster General to hold Thursday's demonstration.

That London should only now be hearing its first radio concert, and that special permission should be necessary to stage it, shows how far behind England is in the radio game as compared with the United States. England, however, is beginning to realize that not only the United States, but also Continental countries, are leaving her with a lot of leeway to make up in wireless matters. Holland, for example, the scene of Florence Parbury's experiments in transmission, is now broadcasting news daily and has a local news service in which Stock Exchange quotations figure.

An agitation is being set on foot here against the "pettifogging restrictions" which, it is charged in radio circles here, are responsible for hampering the amateur pursuit of wireless. Against the hundreds of thousands of amateurs operating in the United States, there are only something between 7,000 and 8,000 amateurs here, it is estimated.

Amateurs Appeal to France

It is claimed that amateurs cannot get practice, and that the fact that wireless, if not fettered, would be as popular here as anywhere has been proved by recent experience. Some radio societies lately approached Eiffel Tower with an appeal that it should transmit for the benefit of British amateurs. In response to this appeal General Ferrie, of the Eiffel Tower station, has transmitted a great deal, and the result has been an immediate increase in the number of amateurs using receiving sets.

"As the Postoffice pleads that fewer restrictions would cause 'disturbance,'" says a radio authority here, "it is interesting that amateurs call into use a very powerful station capable of greater 'disturbance.'" The view held in radio circles here is that the Postoffice is not responsible in the matter of restrictions, but that they are a buffer between the public use of wireless and the old-fashioned notions of the navy, army, and air force authorities.

While facilities for receiving are limited enough, the difficulty of getting a transmitting license is immense, and even if it is obtained there are the closest restrictions as to what one can do. The lucky recipient of such a license cannot exceed ten watts, or one-seventy-sixth of a horsepower, and cannot, therefore, transmit very far. On the other hand, the United States citizen, with the one and a third horsepower allowed him, has a sporting chance of speaking to Europe.

Radio amateurs here, however, are in hopes that better days are coming to them. The matter has been taken up in Parliament, where Sir Douglas Newton, who has had radio apparatus in his house for the last fifteen years, has this week questioned the Postmaster General. Sir Douglas Newton asked if he were prepared substantially to modify and relax, at an early date, the existing regulations, and if he would sanction the broadcasting daily of messages likely to benefit trade and industry, or of general public interest. In reply the Postmaster General said that the whole question was being referred to the Imperial Communications Committee, so that the views of the departments concerned might be obtained as early as possible. He added that he was himself entirely sympathetic with the idea.

Legion Commander Talks

DETROIT, April 15.—National Commander Hanford MacNider of the American Legion sent an Easter message to all members from the broadcasting station of "The Detroit News" this evening. It was the first time the Legion commander had used this means to speak to ex-service men and women.

Free Radio Concert

For those radio fans who are unable to obtain their receiving sets immediately, the Radio Institute of America has set aside its rooms at 98 Worth Street every Saturday evening from 7 to 10 o'clock for radio concerts. Anyone desiring to listen to the concert can do so free of charge.

America Sails For Important Radio Tests

Simultaneous Telephone and Telegraph Signals To Be Sent and Received by Radio on Same Aerial

Engineers Are Confident

Public Telephone Service With Ships May Be Inaugurated Next Year

A series of experiments which will have an important bearing upon future communication are to be made during the voyage of the steamship America, which left Hoboken at noon yesterday for Bremen, Germany. The experiments are a continuation of the two-way telephone conversation tests which have been conducted between that vessel and the Bell Laboratory shore stations at Deal Beach and Avalon, N. J., during the last three months.

During the present voyage the experimenters on board the America will attempt to conduct a two-way voice communication with the shore stations while the wireless telegraph operators on board the America are carrying on their regular wireless telegraph business. Both systems of communication will proceed simultaneously and each will use the same aerial on the ship.

The manner in which this will be accomplished is by obtaining a multiple-tuned effect in the antenna and using filters to separate the voice from the telegraph signals. In order to accomplish this the vessel has been equipped with the latest receiving and transmitting equipment developed by the radio engineers.

Operators to Use Ordinary Wave

For telegraphic purposes the radio operators aboard the America will use the regular wave length allotted to ships under the International Radio Convention and will communicate with the various shore stations assigned for that purpose, according to her position during the voyage.

The engineers from the Bell Laboratories who are conducting the radio-telephone experiments, however, will converse solely with the two New Jersey stations, using a different wave length, which will not conflict at the other shore stations which are only responding to the telegraphic code from the America.

The problem of receiving the voice of a speaker ashore on the steamship America while the wireless operator aboard that ship is sending out a telegram with his powerful transmitting apparatus will be solved by utilizing the hybrid coil balanced receiver and suitable filters. Under this system the transmitting and receiving circuits are balanced against each other, so that the minute currents picked up by the aerial can be recorded while the aerial itself is radiating the powerful currents from the transmitter.

The remarkable thing about the tests is the fact that the engineers are absolutely convinced that they can conduct a two-way voice communication in such manner that the listener at either end can interrupt the speaker without touching any switch or other apparatus, and while the wireless operators are sending out wireless telegrams to an entirely different shore station.

Future Use Depends on Tests

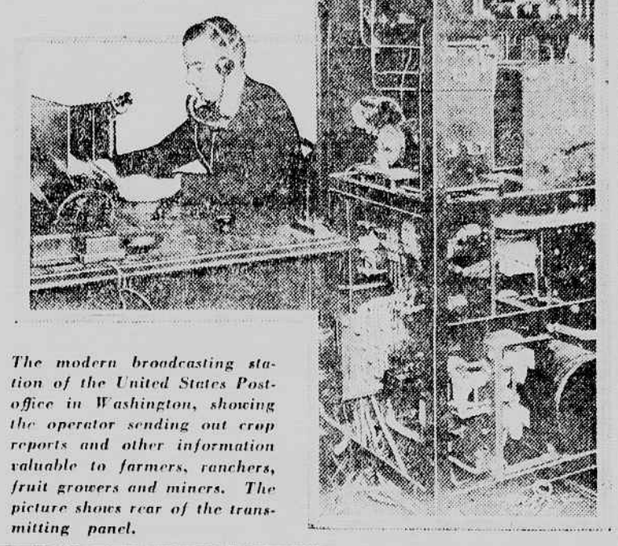
Upon the outcome of these tests the entire future of wireless telephone communication with ships at sea depends. Up to the present the tests with the steamship America have been conducted at times when the wireless operators were not using the aerial. This, of course, would be an impossible condition under regular public service, which can only be applied in the event of a system being successfully developed where both radio telegraphy and telephony can proceed simultaneously.

Should the tests be successful (and there is every reason to predict that they will) regular telephone communication with ships at sea may be put into effect within a year in such manner that any one in any part of the country can pick up their telephone at home and converse with friends aboard a trans-Atlantic steamship at any time during the day or night.

Can't Operate Buzzer Set

Some confusion seems to exist as to whether a radio fan can use a transmitting set, consisting of a buzzer, without obtaining a license from the Federal authorities. It is due to argument that the feeble oscillations produced by a buzzer spark will not cover very great distances and therefore will not interfere with regular radio stations. It is against the law to use such a set without a license.

Talking to the Farmer



The modern broadcasting station of the United States Postoffice in Washington, showing the operator sending out crop reports and other information valuable to farmers, ranchers, fruit growers and miners. The picture shows rear of the transmitting panel.

Last Link Will Soon Be Forged In World-Wide Radio Chain

Radio Corporation Year Report Shows Tremendous Growth of International Radio Communication; Broadcasting Demands Now Being Met

The popular favor into which radio has sprung and the tremendous strides it is making throughout the world since broadcasting was perfected are brought out in the annual report of the Radio Corporation of America to its stockholders made public last week.

"The year 1921," the report reads, "was largely devoted to increasing the efficiency and capacity of our existing communication channels and to extending, through present European correspondents, connections with other countries by wire telegraph, and thus there has been provided indirect service to almost the entire world, except South America."

As the result of the erection of radio telephone broadcasting stations in various parts of the United States the Radio Corporation reports a very great demand for radio telephone receiving apparatus.

"The demand," the report states, "came up very much overnight and no apparatus had been developed which lent itself to quantity production. Radio as an art is advancing very rapidly, due to the continuous research that has been carried on. Apparatus embodying the latest improvements and of a character suited for general use has now been developed for manufacture in large quantities, and it is believed by the officers of the corporation that the demand, large though it may be, will soon be filed."

Radio communication with ships is rapidly being developed, according to the report, recent tests showing that it is possible to communicate between ships and shore over a span of 400 miles, while radiograms have been received by ocean liners 2,500 and 3,000 miles away.

The Radio Corporation maintains six marine radio stations for this service, which provide daily news, public reports of the positions of ships at sea and, in co-operation with the United States Public Health Service and the Seamen's Church Institute, free medical advice for mariners. The stations are at Chatham, Mass.; Siasconset, Mass.; New London, Conn.; Cape May, N. J., and San Francisco.

A new receiving station for trans-Atlantic radiograms, the report states, is at Riverhead, L. I., where one antenna consists of two copper wires nine miles long strung on telephone poles. This station receives simultaneously from Norway, England, France and Germany.

All trans-Atlantic transmission and reception of radiograms is now concentrated in one room in the central radio office at 64 Broad Street, New York City, providing direct communication between the financial district and the European stations.

Flying Parson to Preach From Air by Radio

Lieut. Maynard, of Transcontinental Air Race Fame, to Preach While Piloting for Legion

Lieutenant Belvin W. Maynard, the "flying parson," who made aeronautical history two years ago in the transcontinental flights, will preach the first sermon ever broadcasted by radiophone from the air this afternoon under the auspices of the American Legion.

Maynard will pilot a five-passenger Fokker monoplane over Hazelhurst Field, L. I., during the demonstration. The plane has been specially equipped with a 50-watt radiophone transmitter, which should be heard under normal conditions over a distance of 150 miles. The flight will start at 3 o'clock this afternoon.

The machine will ascend to an altitude of 5,000 feet, and then Maynard will shut off the motor and put the monoplane into a gentle spiral while he delivers the sermon through the mouthpiece attached to his helmet. In this manner the noise of the engine will not in any way interfere with clear reception.

The novel test is being made in conjunction with the drive of the American Legion for $2,500,000 to build and equip a veterans' mountain camp in the Adirondacks for tubercular patients and other convalescents who were wounded during the war.

The sermon will be broadcasted on wave-length of 507 meters, which will be within the range of all the short wave receiving sets now being used by radio enthusiasts. Maynard says there will be no collection at this ethereal church service, but he hopes that those who are his congregation will send their contributions to the headquarters of the veteran fund in the Hotel Astor.

In addition to the sermon to-day flights will be made during the week by Maynard, and as the plane is capable of carrying four passengers in addition to the pilot it will be possible to take up that number of entertainers, who will sing or play over the aeronautical transmitter.

It is hoped that one or two night flights will be possible, so that the range of reception will be greatly increased over the normal daylight range.